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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/543,134

07/25/2005

Hironobu Moriyama

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EXAMINER

HARRIS, GARY D

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

12/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/543,134	MORIYAMA ET AL.	
	Examiner	Art Unit	
	Gary D. Harris	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 24 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Examiner acknowledges new claims 14-16.

Response to Arguments

Applicant's arguments filed 7/27/04 have been fully considered but they are not persuasive. Applicant argues that Inagaki does not teach a polyfunctional monomer component. However applicant defines a polyfunctional monomer component as follows:

A monomer having two or more acrylate residues. Examples of such monomers are hydroxyl pivalic acid neopentyl glycol diacrylate, polyethylene glycol diacrylate (ethylene oxide-added mol number (n)=14), bisphenol A diacrylate, phenyl glycidyl ether acrylate, and hexamethylene diisocyanate urethane prepolymer (Paragraph 29).

Inagaki teaches:

A polymeric material including polycarbonate, polyethyl acrylate, polymethyl methacrylate, polyethylene oxide, polypropylene oxide and a copolymer containing these monomer units. Incidentally, one or a plurality of different kinds of materials can be used for forming the electrolyte absorbing sheet (Col. 14, Line 2-17).

Examiner interprets a polyfunctional groups as having two or more distinct areas for bonding i.e. ethylene would be capable of forming polyethylene found in Inagaki et al. '197. Similarly, Inagaki monomer units would encompass the claim.

Allowable Subject Matter

Claims 14-16(new) allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 14 clearly defines the monofunctional monomer as benzyl acrylate, N-vinyl-2-pyrrolidone, imide acrylate, acryloyl morpholine, phenoxyethyl acrylate, N,N-diethylacrylamide, methoxypolyethylene glycol acrylate, tetrahydrofurfuryl acrylate, or phoxypolyethylene glycol acrylate.

Claim 15 clearly defines the phosphate-based liquid flame retardant is bisphenol A bis(diphenyl)phosphate, hydroquinol bis(diphenyl)phosphate, phenyl dixylenyl phosphate, tricresyl phosphate, cresyl diphenyl phosphate, trixylenyl phosphate, xylenyl diphenyl phosphate, resorcinol bis(diphenyl)phosphate, or 2-ethylhexyl diphenyl phosphate and the phosphate-based liquid flame retardant is present in the monomer composition in an amount of 70 to 200 parts by weight with respect to 100 parts by weight of the monofunctional monomer component and the polyfunctional monomer component combined.

Claim 16 is dependent on Claim 14.

The closest prior art Inagaki et al. 197 does not teach the combined elements in claim 14-16, nor would it be obvious to one skilled in the art to combine as claimed.

For convenience rejection is repeated below:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8-10 & 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Inagaki et al. US 6,696,197.

As to Claim 1, Inagaki et al. '197 discloses a liquid absorbing polymeric material formed into a sheet designed to absorb electrolyte (Col. 13, Line 62-67 & Col. 14, Line 1-18) from a secondary battery source (Col. 1, Line 27-30).

As to Claim 8, Inagaki et al. '197 discloses by example 22 that the liquid absorbing sheet prevented leakage to the circuit substrate section (Col. 24, Line 43-56).

As to Claim 9, Inagaki et al. '197 discloses an electrolyte absorbing sheet between heat conducting sheet and secondary battery unit (Col. 4, Line 52-64).

As to Claim 10, Inagaki et al. '197 discloses the use of lithium hexafluoro phosphate (Col. 10, Line 9-18) and flame retardant (Col. 13, Line 16-19).

As to Claim 13, Inagaki et al. '197 discloses a nonaqueous electrolyte battery pack comprising a battery cell, circuit board and battery case (Col. 13, Line 30-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. US 6,696,197 as applied to claim 1, 8-10 & 13 above.

As to Claim 2,3, Inagaki et al. '197 does not disclose solubility parameters. However, these properties are inherent because the applicants and the inventors teach virtually identical structures with similar materials. The physical properties of similar

materials will inherently be similar. The burden of proof is shifted to the applicant to show the prior art properties are different from those claimed. See *In re Fitzgerald*, 619 F. 2d 67, 205 USPQ 594 (CCPA 1980).

As to Claim 4, 5, 6, 7 & 12, Inagaki et al. '197 discloses the desirability of using a homopolymer and/or copolymer in the absorbing sheet (Col. 13, Line 62-67). Inagaki et al. '197 does not disclose UV-polymerization initiator per weight of monomer and irradiation with UV-rays. However the patentability of a product is independent of how it was made. *Ex parte Jungfer* 18 USPQ 1796, 1800 (BPAI 1991); *Bristol-Myers Co. v. U.S. International Trade Commission* 15 USPQ 2d 1258 (Fed. Cir. 1989). The burden is on applicants to show product differences in product by process claims. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inagaki et al. US 6,696,197 as applied to claim 1, 8-10 & 13 above, and further in view of Moritani et al US 4,929,482.

As to Claim 11 , Inagaki et al. '197 does not disclose the use of bisphenol as a flame retardant or the flame retardant present in the monomer. However, Inagaki et al. '197 does disclose that the type of electrolyte absorbing sheet is not particularly limited (Col. 14, Line 19-20). However, Moritani et al. '482 discloses the addition of heat stabilizers including bisphenols (Col. 3, Line 1-25). It would have been obvious to one

skilled in the art to utilize bisphenols as taught by Moritani et al. '482 in the Inagaki et al. '197 invention as phenols are well known in the industry as heat stabilizers.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary D. Harris whose telephone number is 571-272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GH


CAROL CHANEY
SUPERVISORY PATENT EXAMINER